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September 1993

NAVY CONTRACT

AOE 6 Shipbuilding
Claims Settled but
More Delays and Cost
Growth Likely



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**United States
General Accounting Office
Washington, D.C. 20548**

**National Security and
International Affairs Division**

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September 30, 1993

**The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate**

**The Honorable Ted Stevens
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
United States Senate**

**The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives**

**The Honorable Joseph M. McDade
Ranking Minority Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives**

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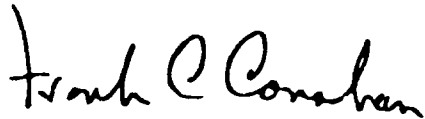
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The Conference Report on the Dire Emergency Supplemental Appropriations Act for Fiscal Year 1991 directed us to monitor the process used by the Navy to resolve claims involving cost growth on the AOE 6 class shipbuilding program. In response to the Conference Report, on August 23, 1993, we issued a report that is restricted because it contains business sensitive information. This letter contains an unrestricted summary that identifies the reasons for the cost growth, discusses the procedures the Navy followed to settle the claims, and assesses whether additional delays and cost growth can be expected.

We are sending copies of this summary to other appropriate congressional committees; the Secretaries of Defense and the Navy; and the Director, Office of Management and Budget. We will also make copies available to others.

B-251748

This summary was prepared under the direction of Richard Davis, Director, National Security Affairs, who may be reached on (202) 512-3504 if you or your staff have any questions concerning this summary. Other major contributors to this summary are Richard J. Herley, Assistant Director; David R. Fisher, Evaluator-in-Charge; and Harold D. Reich, Site Senior.

A handwritten signature in black ink that reads "Frank C. Conahan". The signature is written in a cursive style with a large, stylized "F" and "C".

Frank C. Conahan
Assistant Comptroller General

Summary

Purpose

In January 1987, the Navy awarded National Steel and Shipbuilding Company (NASSCO), San Diego, California, an \$862.9-million,¹ fixed-price incentive contract for the detailed design and construction of the first AOE 6 class ship, with options for three additional ships (AOE 7 through 9). However, the program schedule slipped, costs increased, the Navy did not exercise the AOE 9 option, and it reduced the program from seven to four ships. By February 1991, NASSCO had submitted over \$300 million in claims against the Navy for cost increases it believed the Navy was responsible for. As a result, the House and Senate Committees on Appropriations Conferees directed GAO to monitor the claims resolution process. Specifically, GAO's objectives were to identify the reasons for program cost growth and to document the procedures the Navy followed in its AOE 6 claims settlement process. In addition, GAO assessed whether the Navy would incur further program cost increases and schedule delays.

Background

The AOE 6 class fast combat support ships are designed to operate as part of carrier battle groups, resupplying other ships in the battle groups with food, petroleum products, ammunition, and other supplies. As such, they are designed to combatant standards. They will be the first Navy ships to use the newly designed reversing reduction gears, which perform a function similar to an automobile transmission.

The Navy and NASSCO negotiated a claims settlement on December 26, 1991. In addition to a price increase, the settlement provided for contract modifications, including slippage of ship and gear delivery dates, and for the revision of NASSCO's cost and schedule control system. After the settlement, Congress provided \$500 million for another AOE class ship, the AOE 10. Also during this time, the threat and national security strategy that formed the basis for the AOE 6 program has changed or is being reevaluated, and the size of the aircraft carrier force and the fleet are being reduced. However, DOD has proceeded with plans to construct the AOE 10. NASSCO was awarded the contract in January 1993, and construction is planned to begin during September 1993.

Results in Brief

The AOE 6 program was troubled from the beginning, with schedule delay and cost growth virtually inevitable. The subsequent problems and the resulting claims stemmed from an optimistically low bid, concurrent development and construction, inadequate Navy and NASSCO management attention, and unrealized gains in expected shipyard productivity.

¹All dollar amounts are expressed in program base month March 1986 dollars unless otherwise noted.

The Navy administered the claims evaluation process according to established procedures. Navy claims files generally documented NASSCO's legal entitlement for each claim, the technical and audit analyses, and support for the Navy's position. The Navy developed its own cost estimates for claims.

The lead ship has not been fully tested at sea, where operational problems may first arise. Thus, although fiscal year 1992 and 1993 funds in the amount of \$500 million are available for another AOE class ship (AOE 10), the final costs, delivery dates, and the extent AOE's now under construction will meet operational expectations are still unknown. Declines in the size of the fleet and carrier force and a reordering of defense priorities may preclude the need for the AOE 10.

GAO's Analysis

Reasons for Cost Growth

Four principal causes contributed to the increased costs:

- NASSCO submitted an optimistically low bid. NASSCO planned on reducing the number of labor hours required to build the ship by instituting capital improvements, applying intense management attention, obtaining below-market labor rates, and utilizing advanced shipbuilding techniques.
- NASSCO believed the reversing reduction gear design was nondevelopmental and equipment was readily available. However, as revealed during the claims process, before awarding the contract, the Navy knew that specifications for some gear components were developmental and probably could not be manufactured and tested in the time allowed in the contract. The Navy did not disclose this information at the time the original contract was awarded.
- Higher priority work with the DDG 51 class destroyer interrupted the Navy from working on design specifications for the AOE 6. When the Navy resumed AOE 6 work a year later, different personnel were assigned. This lack of continuity resulted in deficient design specifications. Also, because of emerging shipyard problems and the addition of other contracts, NASSCO managers were not able to manage the AOE 6 ship construction as intensively as intended.
- Because some major components were delivered much later than planned, NASSCO was unable to fully implement advanced shipbuilding techniques or realize expected work force productivity. As planned, NASSCO began to

build the second ship before completing the first to meet the construction schedule. As a result, it had to hire and train many additional workers. NASSCO's low wage scale compounded difficulties because NASSCO could not attract and keep the skilled craftsmen and engineers it needed.

Claims Resolution Followed Process

By early 1991, the construction delays and increased costs left NASSCO in severe financial difficulty. To prevent NASSCO's bankruptcy, the Navy agreed to provide emergency financial relief available under the provisions of Public Law 85-804 and expedite the claims settlement process. The key Navy objective was to complete the three ships under construction at the least cost and earliest possible delivery date.

The Navy administered the claims evaluation process in accordance with established administrative procedures. The Navy assembled a team of analysts from the Naval Sea Systems Command, the Office of the Supervisor of Shipbuilding, Conversion and Repair, and the Defense Contract Audit Agency. The team was involved in the technical and legal analyses and the accounting audit to determine if NASSCO was entitled to compensation and to recommend a settlement amount, if warranted. The Navy and NASSCO reached an agreement and executed contract modifications on December 26, 1991.

However, NASSCO's cost and schedule control system did not comply with Department of Defense (DOD) standards as required by the contract. The system did not provide reliable completion estimates for ships under construction. As a result, excess progress payments of almost \$25 million were paid to NASSCO in 1990, which were, in effect, recovered in calculating the net settlement amount payable to NASSCO. The Navy and NASSCO also agreed, as part of settlement, that NASSCO would revise its cost and schedule control system.

Future Schedule Delays and Cost Growth Are Likely

Future contract schedule delays and cost growth are likely. It appears target prices and delivery schedules will slip again because assumed shipyard productivity rates, used to calculate the estimated labor hours needed to complete the ships, have not been achieved and maintained as expected at the time of settlement. Also, in October 1992, the employees entered a strike against NASSCO, but after 3 weeks temporarily agreed to continue work while they negotiated with NASSCO. The Navy reported in April 1993 that federal mediators had entered the negotiations. NASSCO and the Navy are assessing the impact of the strike on cost and schedule

estimates. These difficulties could affect the construction schedule and final cost of the AOE 10.

Further, the AOE 6 will not be fully tested until sea trials after mid-1993. If problems are revealed, additional costs could be incurred for corrections.

Other factors could affect the future of the AOE 10 as well. The requirement for AOE 6 class ships was developed in the early 1980s. Since then, defense budgets have declined, defense priorities have shifted, and the size of the fleet, including the number of aircraft carrier battle groups, is being reduced. Together, these factors raise the question of whether the AOE 10 is still needed.

Recommendation

GAO recommends that the Secretary of Defense direct the Secretary of the Navy to suspend further expenditures under the AOE 10 ship construction contract until (1) the total cost and operational capabilities of the AOE 6 are known and (2) the risks associated with continuing the program are identified and controlled. Further, GAO recommends that the Secretary of Defense direct the Secretary of the Navy to reevaluate the current need for the AOE 10. If the reevaluation does not support the need for the AOE 10, GAO recommends that the Secretary of Defense direct the Secretary of the Navy to terminate the AOE 10 ship construction contract.

Agency Comments

On March 18, 1993, DOD provided comments on a draft of this report, generally agreeing with the report's findings, but did not agree with a recommendation in the draft report that award of the AOE 10 construction contract should be delayed. Shortly after GAO provided the draft report to DOD for comment, the Navy awarded NASSCO a contract for the AOE 10. Construction is expected to begin in September 1993. DOD commented that award was based on NASSCO's ability to perform and a review and evaluation of factors that could affect the execution of the program and the associated risks. DOD believes program risks are now acceptable.